

## REMARKS

This is in response to the Office Action dated April 25, 2007. In view of the foregoing amendments and following representations, reconsideration is respectfully requested.

By the above amendment, claims 1-15 are cancelled, and claims 16-24 are added. Thus, claims 16-24 are currently pending in the present application.

Next, the specification and abstract have been reviewed and revised in order to make a number of minor clarifying and other editorial amendments. To facilitate entry of the amendments, a substitute specification and abstract has been prepared. No new matter has been added. Also enclosed is a "marked-up" copy of the original specification and abstract to show the changes that have been incorporated into the substitute specification and abstract. The enclosed copy is entitled "Version with Markings to Show Changes Made."

On page 2 of the Office Action, the drawings are objected to based on a claimed feature that is not illustrated in the drawings. In response, the identified feature has been cancelled from the claims. Further, the objection to the specification on page 3 of the Office Action is rendered moot in view of the cancellation of claims 1-15.

Next, on pages 3-4 of the Office Action, claims 3, 4, 7, 8, 10 and 11 are rejected under 35 U.S.C. 112, second paragraph. As noted above, each of the rejected claims has been cancelled; thereby rendering moot the rejection of these claims under 35 U.S.C. 112, second paragraph. The new claims have been drafted to avoid the language considered indefinite by the Examiner. However, with respect to the Examiner's contention that an automatic spray gun is not supported

in the specification, the Examiner's attention is directed to Fig. 5 and page 11, lines 8-26 of the specification as originally filed. In view of these descriptions, it is apparent that the spray gun being an automatic spray gun is adequately supported in the specification as originally filed.

Next, on pages 5-9 of the Office Action, the original claims are rejected over the prior art as follows:

Claims 1, 4-7 and 9-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Schmon (DE 10031857); and

Claims 2, 3, 6, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmon (DE 10031857).

It is submitted that the present invention, as embodied by the new claims, now clearly distinguishes over the Schmon reference for the following reason.

The present invention is directed to a spray gun of which the pressure indication unit is a modular part of the grip so that it can be replaced with an adapter having no pressure gauge when such is not required. The claimed arrangement is fundamentally different from the arrangement disclosed in the Schmon reference as will be explained below.

The present invention, as defined in new claims 16-24, includes the following novel features.

(1) The present invention is characterized in that the digital-indication pressure gauge is provided in the pressure indication unit and the pressure indication unit is designed for removable installation, as a part of the spray gun grip.

(2) Spray guns with digital indication of a pressure detected by the pressure sensor are well known. According to the present invention, however, the pressure indication unit includes a digital indicator, sensor and circuit board and the entire pressure indication unit is formed as a module by molding an insulative resin. In the module of the present invention only the power terminals, which are connected to the circuit board, and the pressure-sensitive element of the sensor, which is exposed in the air channel, are exposed to the outside of the spray gun. This structure of the pressure indication unit is clearly not disclosed in the Schmon reference.

(3) According to the present invention, the pressure indication unit forms a part of the grip itself, and the pressure transducer is installed in the pressure indication unit. Since the pressure indication unit is detachably connected to the spray gun body, it can easily be replaced with an adapter that does not have a pressure gauge in situations when it is not necessary to measure the pressure. In other words, the spray gun of the present invention is usable as a general-purpose one. Also, the spray gun of the present invention is constructed so that it can advantageously be cleaned without adversely affecting the pressure indication unit.

**Schmon** discloses a spray gun provided with a pressure-measurement device 27 that detects and indicates a pressure in a compressed air supply channel (see col. 4, lines 14-52 of corresponding U.S. Patent No. 7,017,838). The pressure measuring unit includes a pressure sensor provided integrally with the gun body. In the Schmon spray gun, a capillary is provided inside the gun body to connect the pressure sensor to the compressed air supply channel.

The capillary tube can prevent cleaning agents or solvents used during cleaning of the

spray gun, and any coating-material residue and paint residue from penetrating the pressure sensor area. These materials could have an adverse impact on normal pressure measurement or interfere with the measurement. However, the capillary has to be cleaned by washing and the spray gun has to be disassembled in order to perform the cleaning operation. In contrast, in the present invention, the spray gun can be cleaned without having to disassemble the pressure measurement unit. Accordingly, the pressure sensor, which is intrinsically weak, cannot possibly be damaged.

The Schmon spray gun and the spray gun of the present invention are similar in that the pressure indication unit is attached to the grip (handle) of the spray gun. However, in Schmon, the pressure indication unit is integral with the spray gun body. Whereas in the present invention, the pressure indication unit is formed as a module by molding the insulative resin so that it can be removably connected to the gun body to form part of the grip. Furthermore, the pressure indication unit of the present invention is replaceable and removable when necessary.

Independent claim 16 requires, *inter alia*:

a pressure indication unit detachably connected to the spray gun body so as to form at least part of a spray gun grip, said pressure indication unit defining an air inlet, an air outlet, and a fluid channel extending between the air inlet and the air outlet, wherein the air outlet is coupled to the coupling hole of the spray gun body; and

a pressure transducer assembled in the pressure indication unit, the pressure transducer including a pressure sensor communicated with the fluid channel via an air passage formed in the

pressure indication unit, a digital converter for converting a pressure detected by the pressure sensor into an electrical signal, and a digital indicator for providing a digital indication of an output electrical signal from the digital converter.

Clearly, the Schmon spray gun does not include a detachable pressure indication unit that forms part of the grip. Note that the Schmon pressure-measurement device is incorporated into the existing handle or grip of the spray gun. Furthermore, the Schmon pressure sensor is not communicated with the air supply channel via an air passage formed in the pressure indication unit. Accordingly, Schmon does not meet each and every limitation of new claim 16, and therefore cannot anticipate claim 16 under 35 U.S.C. 102(e).

Claim 18 requires, *inter alia*:

a pressure indication module comprising a pressure transducer including a pressure sensor, a digital converter for converting a pressure detected by the pressure sensor into a digital signal, and a digital indicator;

wherein the pressure indication module is formed by molding an insulative resin such that only the power terminals and the pressure sensitive element are exposed outside of the pressure indication module; and an operation power unit connected to the power terminals which are exposed outside of the pressure indication module.

As noted above, the Schmon pressure-measurement device is not constructed as a modular element having the features recited in claim 18. Thus, it is submitted that claim 18 is clearly allowable over the Schmon reference.

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Further, claims 17 and 19-24 depend, directly or indirectly, from one of claims 16 and 18, and are therefore allowable at least by virtue of their dependencies.

In view of the above, it is submitted that the present application is now clearly in condition for allowance. The Examiner therefore is requested to pass this case to issue.

In the event that the Examiner has any comments or suggestions of a nature necessary to place this case in condition for allowance, then the Examiner is requested to contact Applicant's undersigned attorney by telephone to promptly resolve any remaining matters.

Respectfully submitted,

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